

Claims

LB2 1. A door-latching system for a sectional door having a plurality of door panels that are moveable between an open position and a closed position, comprising: a latch assembly mountable adjacent to the sectional door and being moveable from a maintained release position to a door-blocking position in response to movement of the sectional door; wherein the latch assembly is able to remain in the maintained release position to allow at least some of the plurality of door panels to travel past the latch assembly, and in response to further movement of the plurality of door panels, the latch assembly subsequently moves to the door-blocking position to obstruct closing movement of the plurality of door panels.

2. The door-latching system of claim 1, further comprising a traveling member mountable to the plurality of door panels, such that the traveling member is able to engage the latch assembly as the plurality of door panels move from the closed position to the open position, wherein the traveling member engaging the latch assembly moves the latch assembly from the maintained release position to the door-blocking position.

3. The door-latching system of claim 1, wherein the latch assembly in the door-blocking position obstructs downward movement of the plurality of door panels by engaging a guide roller associated with the sectional door.

4. The door-latching system of claim 1, further comprising a releasing member coupled to the latch assembly, such that the releasing member moves the latch assembly from the door-blocking position to the maintained release position upon manual manipulation of the releasing member.

5. The door-latching system of claim 4, further comprising a pliable elongated member coupled to the latch assembly, wherein manual manipulation of the releasing member includes manually pulling the flexible elongated member.

6. The door-latching system of claim 1, wherein the latch assembly includes a latch member that moves substantially linearly between the maintained release position and the door-blocking position.

7. The door-latching system of claim 2, wherein the latch assembly includes a sensing member moveably mounted within the latch assembly and adapted to be moved by at least one of the traveling member and the plurality of doors panels, wherein the latch assembly moves from the maintained release position to the door-blocking position in response to movement of the sensing member.

8. The door-latching system of claim 7, wherein the sensing member is pivotally mounted within the latch assembly.

9. The door-latching system of claim 8, wherein the traveling member includes a pivotal arm that engages the sensing member as the plurality of door panels move from the closed position to the open position.

10. The door latching system of claim 9, wherein pivotal movement of the sensing member provides the motive force for actuating the latch member to the door-blocking position.

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11. The door-latching system of claim 1, wherein the latch assembly includes an actuating member that moves the latch assembly between its maintained release position and its door-blocking position.

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12. The door-latching system of claim 11, wherein the actuating member is pivotally mounted within the latching assembly.

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13. The door-latching system of claim 12, further comprising a traveling member mountable to the plurality of door panels, such that the traveling member is able to engage the actuating member as the plurality of door panels move from the closed position to the open position, wherein the traveling member engaging the actuating member moves the latch assembly from the maintained release position to the door-blocking position.

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14. The door-latching system of claim 11, wherein the actuating member is a solenoid that moves the latch assembly between its maintained release position and its door-blocking position.

15. The door-latching system of claim 1, wherein the latch assembly includes a sensing member that senses the open position of the plurality of door panels, wherein the

latch assembly moves between the maintained release position and the door-blocking position in response to the sensing member sensing that the plurality of door panels has reached the open position.

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16. The door-latching system of claim 15, wherein the sensing member is an electric switch.

17. The door-latching system of claim 15, wherein the sensing member is a photoelectric eye.

18. The door-latching system of claim 15, wherein the sensing member is a proximity switch.

19. The door-latching system of claim 15, wherein the sensing member is pivotally mounted within the latch assembly.

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20. The door-latching system of claim 19, further comprising a traveling member mountable to the plurality of door panels, such that the traveling member is able to engage the sensing member as the plurality of door panels move from the closed position to the open position, whereby the sensing member senses that the plurality of door panels has reached the open position.

21. The door-latching system of claim 2, further comprising a second latch assembly mountable adjacent to the sectional door, wherein the second latch assembly engages the traveling member in response to the plurality of door panels moving to the closed position, thereby inhibiting the door panels from moving to the open position.

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22. The door-latching system of claim 1, wherein the plurality of the door panels upon moving from the closed position to the open position exerts a motive force that moves the latch assembly from the maintained release position to the door-blocking position.

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23. A door-latching system for a sectional door having a plurality of door panels that are moveable between an open position and a closed position, comprising:

a latch assembly mountable adjacent to the sectional door and having a maintained release position and a door-blocking position, wherein the door-blocking position allows less downward movement of the plurality of door panels than does the maintained release position; and

a traveling member mountable to the plurality of door panels such that the traveling member is able to engage the latch assembly as the plurality of door panels move from the closed position to the open position, wherein the traveling member engaging the latch assembly moves the latch assembly from the maintained release position to the door-blocking position.

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24. The door-latching system of claim 23, wherein the latch assembly in the door-blocking position obstructs downward movement of the plurality of door panels by engaging a guide roller associated with the sectional door.

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25. The door-latching system of claim 23, further comprising a releasing member coupled to the latch assembly, such that the releasing member moves the latch assembly from the door-blocking position to the maintained release position upon manual manipulation of the releasing member.

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26. The door-latching system of claim 25, further comprising a pliable elongated member coupled to the latch assembly, wherein manual manipulation of the manual actuator includes manually pulling the flexible elongated member.

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27. The door-latching system of claim 23, wherein the latch assembly includes a latch member that moves substantially linearly between the maintained release position to the door-blocking position.

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28. The door-latching system of claim 23, wherein the latch assembly includes a sensing member pivotally mounted within the latch assembly, wherein the latch assembly moves from the maintained release position to the door-blocking position in response to the traveling member engaging the sensing member.

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29. The door-latching system of claim 28, wherein the latch assembly includes an actuating member pivotally mounted within the latch assembly and a latch member that moves between the maintained release position and the door-blocking position.

30. The door-latching system of claim 29, wherein the sensing member is coupled to the actuating member such that engagement between the traveling member and the

sensing member as the plurality of door panels move from the closed position to the open position causes the actuating member to move the latch member to the door-blocking position.

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31. The door-latching system of claim 30, wherein the actuating member is the sensing member.

10 32. The door-latching system of claim 28, wherein the sensing member is an actuating member for moving the latch assembly to the door-blocking position.

33. The door-latching system of claim 23, wherein the traveling member is pivotally mountable to the plurality of door panels.

34. The door-latching system of claim 23, further comprising a second latch assembly mountable adjacent to the sectional door, wherein the second latch assembly engages the traveling member in response to the plurality of door panels moving to the closed position, thereby inhibiting the door panels from moving to the open position.

25 35. A method of operating a sectional door that includes a plurality of door panels moveable between an open position and a closed position, and a latch assembly moveable between a release position and a door-blocking position, comprising:

maintaining the latch assembly at its release position while the plurality of door panels move from their closed position toward their open position; and

subsequently moving the latch assembly to its door-blocking position in response to further movement of the plurality of door panels.

5 36. The method of claim 35, further comprising moving the latch assembly substantially linearly between the release position and the door-blocking position.

10 37. The method of claim 35, including the steps of sensing that the door is in the open

position, and responsively moving the latch assembly to the door-blocking position.

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15 38. A door-latching system for a sectional door having a plurality of door panels that are moveable between an open position and a closed position, comprising:

20 a sensing member adapted to sense that the plurality of door panels have reached the open position;

25 a latch member moveable between a release position and a door-blocking position, wherein the latch member in the release position allows at least some of the plurality of door panels to travel past the latch member, and in the door-blocking position the latch member inhibits the plurality of door panels from moving from the open position to the closed position; and

30 an actuating member that moves the latch member between the release position and the door-blocking position in response to the sensing member having sensed that the plurality of door panels have reached the open position.

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35. The door-latching system of claim 38, wherein the actuating member includes a solenoid.

40. The door-latching system of claim 38, wherein the actuating member is adapted to be pivotally mounted adjacent the sectional door.

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41. The door latch system of claim 38, wherein the actuating member and the sensing member are adapted to be pivotally mounted adjacent the sectional door at a common pivot point.

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42. The door latch system of claim 38, wherein the latch member moves linearly between the release position and the door-blocking position.

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43. The door latch system of claim 38, wherein the sensing member is an electric switch.

44. The door latch system of claim 38, wherein the sensing member is a photoelectric eye.

45. The door latch system of claim 38, wherein the sensing member is a proximity switch.

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46. The door-latching system of claim 38, further comprising a traveling member mountable to the plurality of door panels, such that the traveling member is able to engage the sensing member as the plurality of door panels move from the closed position

to the open position, wherein the traveling member engaging the sensing member triggers movement of the latch member from the release position to the door-blocking position.

5 47. The door-latching system of claim 38, wherein the latch member in the door-blocking position obstructs downward movement of the plurality of door panels by engaging a guide roller associated with the sectional door.

10 48. The door-latching system of claim 38, further comprising a releasing member coupled to the latch member, such that the releasing member moves the latch member from the door-blocking position to the release position upon manual manipulation of the releasing member.

15 49. The door-latching system of claim 48, further comprising a pliable elongated member coupled to the latch member, wherein manual manipulation of the releasing member includes manually pulling the flexible elongated member.

20 50. The door-latching system of claim 38, wherein the latch member moves from the release position to the door-blocking position in response to movement of the sensing member.

25 51. The door-latching system of claim 50, further comprising a traveling member mountable to the plurality of door panels such that the traveling member engages and moves the sensing member as the plurality of door panels move from the closed position to the open position.

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52. The door-latching system of claim 50, wherein the sensing member is the actuating member.

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53. The door-latching system of claim 46, further comprising a second latch assembly mountable adjacent to the sectional door, wherein the second latch assembly engages the traveling member in response to the plurality of door panels moving to the closed position, thereby inhibiting the door panels from moving to the open position.

54. The door-latching system of claim 38, wherein the plurality of the door panels upon moving from the closed position to the open position exerts a motive force that moves the latch member from the release position to the door-blocking position.

55. The door-latching system of claim 54, wherein the actuating member transmits the motive force from the door panels to the latch member.

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56. A method of operating a sectional door that includes a plurality of door panels moveable between an open position and a closed position, and a latch assembly moveable between a release position and a door-blocking position, comprising:

sensing that the plurality of door panels have reached the open position;
actuating the latch assembly such that the latch assembly moves from the release position to the door-blocking position upon sensing that the plurality of door panels have reached the open position; and
latching the sectional door upon actuating the latch assembly, whereby the latch

assembly inhibits the plurality of door panels from moving from the open position to the closed position.

5 57. The method of claim 56, wherein the step of actuating the latch assembly involves the use of a solenoid.

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10 58. The method of claim 56, wherein the step of sensing involves the use of an electric switch.

15 59. The method of claim 56, wherein the step of sensing involves the use of a photoelectric eye.

20 60. The method of claim 56, wherein the step of sensing involves the use of a proximity switch.

25 61. The method of claim 56, wherein in the step of latching, the latch assembly engages a guide roller associated with the sectional door.

62. The method of claim 56, further comprising releasing the sectional door after the step of latching the sectional door, whereby the plurality of door panels are subsequently allowed to move from the open position to the closed position.

63. The method of claim 56, wherein movement of the plurality of door panels from the closed position to the open position provides a motive force for actuating the latch assembly.

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64. The method of claim 56, including the step of maintaining the latch assembly in the release position until the sensing step.